**Please delete the present Abstract of the Disclosure.**

**Please add the following new Abstract of the Disclosure:**

A method and an apparatus for the spatially resolved polarimetric examination of an imaging beam pencil (1) generated by an associated pulsed radiation source (9). A first and a second photoelastic modulator (6a, 6b) and a polarization element (5) are introduced serially into the beam path of the beam pencil. A control unit (8) activates a first modulation oscillation of the first photoelastic modulator and a second modulation oscillation of the second photoelastic modulator and drives the radiation source for outputting a respective radiation pulse in a manner dependent on the oscillation state of the first photoelastic modulator and/or the second photoelastic modulator. A detector (4) detects the beam pencil coming from the polarization element in a spatially resolved manner.